

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

Summary Memorandum

Site ID: WA D980834030
County: Grays Harb.
Priority Assessment: None*
Backlog Red. Cat.:
Date/Revised: 10/09/85

Name and Location:

Hoquiam Municipal Landfill
Olympic Highway 101
Hoquiam, WA 98550

Contact: Dennis Priebe
Telephone: (206) 5325700
Site Status: (X) Active () Inactive () Unknown

Site Description/TSD Activities:

Site is a municipal landfill which has operated since the 1960's; first as a burning dump (until approx. 1976), & then as a conventional landfill accepting sanitary refuse. This landfill is the major regional solid waste facility for the greater Hoquiam area.

Waste Types/Quantities/Characteristics:

Landfill accepted industrial wastes, approximately 280 tons, of chrome lignosulfonate, a drill mud flocculant with hexavalent chromium. Most Western Dry Cleaning dumped approximately 5000 lbs of sludges contaminated with tetrachloroethylene.

Physical/Social Environment:

Landfill is located NW of City of Hoquiam in a hilly area. Approximately 2000 residents/transients, 4 schools, 1 park, 1 playground, & 4 churches are within 1 mile of site. Landfill is on bluff bordered by Hwy. 101 & Hoquiam River. Bowerman Basin, an important nesting/feeding area for shorebirds & endangered/threatened raptors, is 1.3 miles downstream.

Pollutant Mobilization/Pathways/Risk:

Leachate discharges to the Hoquiam River, and metals contamination detected in on-site monitoring wells suggest major pathway is via the Hoquiam River Watershed. Public supplies are upstream and protected.

Priority Assessment/Backlog Reduction Category:

*None: Pending outcome of Geohydrological investigation of site required by WDOE and Grays Harbor Co. Health Dept.

Followup Recommendations:

Continued inspections of landfill for leachate discharges, and continued monitoring of groundwater and surface water for metals and solvent contamination.

USEPA SF



1562882

**POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
Part 1 - Site Information and Assessment**

I. IDENTIFICATION

01 State	02 Site Number
WA	D980834030

II. SITE NAME AND LOCATION

01 Site Name (legal, common, or descriptive name of site) Hoquiam Municipal Landfill		02 Street, Route No., or Specific Location Identifier Olympic Highway 101	
03 City Hoquiam	04 State WA	05 Zip Code 98550	06 County Grays H
07 County Code 027		08 Cong Dist 03	
09 Coordinates Latitude: 465836.0 Longitude: 1235324.0		Section/Township/Range See below	
10 Directions to Site (starting from nearest public road) SE1/4, Sec. 34 & SW1/4, Sec. 35, T18N, R10W, W.M. One-half mile north of city.			

III. RESPONSIBLE PARTIES

01 Owner (if known) City of Hoquiam Public Wks.		02 Street (business, mailing, residential) 609 8th Street	
03 City Hoquiam	04 State WA	05 Zip Code 98550	06 Telephone Number (206) 5325700
07 Operator (if known and different from owner) Same		08 Street (business, mailing, residential)	
09 City	10 State	11 Zip Code	12 Telephone Number ()
13 Type of Ownership (check one) <input type="checkbox"/> A. Private <input type="checkbox"/> B. Federal <input type="checkbox"/> C. State <input type="checkbox"/> D. County <input checked="" type="checkbox"/> E. Municipal <input type="checkbox"/> F. Other: <input type="checkbox"/> G. Unknown			
14 Owner/Operator Notification on File (check all that apply) <input type="checkbox"/> A. RCRA 3001, Date Rec'd: / / <input checked="" type="checkbox"/> B. Uncontrolled Waste Site (CERCLA 103c), Date Rec'd: 02/02/83 <input type="checkbox"/> C. None			

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 On Site Inspection <input checked="" type="checkbox"/> Yes, Date: 7/6 - 7/85 <input type="checkbox"/> No		By (check all that apply): <input type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA Contractor <input checked="" type="checkbox"/> C. State <input type="checkbox"/> D. Other Contractor <input checked="" type="checkbox"/> E. Local Health Official <input type="checkbox"/> F. Other: Contractors Name(s):	
02 Site Status (check one) <input checked="" type="checkbox"/> A. Active <input type="checkbox"/> B. Inactive <input type="checkbox"/> C. Unknown		03 Years of Operation beginning year: 1960 ending year: Pres <input type="checkbox"/> Unknown	
04 Description of Substances Possibly Present, Known, or Alleged Site is a municipal landfill for sanitary refuse. Facility has accepted industrial wastes in past. Landfill practiced open burning until 1976. ITT Rayonier disposed approximately 280 tons of chrome lignosulfonate (drill mud flocculant). Landfill also received approximately 5000 lbs of drycleaning sludges.			
05 Description of Potential Hazard to Environment and/or Population The landfill is permitted (NPDES No. 5086) to discharge leachate to the Hoquiam Sewage Treatment Plant, but files report leachate discharges to storm drains and the Hoquiam River.			

V. PRIORITY ASSESSMENT

01 Priority for Inspection (check one; if high or medium is checked, complete Part 2 and Part 3)
☐ A. High (inspection required promptly) ☐ B. Medium (inspection required) ☐ C. Low (inspect on time available basis) ☒ D. None (no further action needed complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 Contact Ned Therien		02 Of (agency/organization) WDOE		03 Telephone Number (206) 4596352	
04 Person Responsible for Assessment Patt O'Flaherty	05 Agency SAIC	06 Organization	07 Telephone Number (206) 7477899	08 Date 10/09/85	

**POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
Part 2 - Waste Information**

I. IDENTIFICATION

01 State	02 Site Number
WA	D980834030

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 Physical States (check all that apply) <input checked="" type="checkbox"/> A. Solid <input type="checkbox"/> E. Slurry <input type="checkbox"/> B. Powder, Fines <input checked="" type="checkbox"/> F. Liquid <input checked="" type="checkbox"/> C. Sludge <input type="checkbox"/> G. Gas <input type="checkbox"/> D. Other:	02 Waste Quantity at Site (measures of waste quantities must be independent) Tons: >282 Cubic Yards: No. of Drums:	03 Waste Characteristics (check all that apply) <input checked="" type="checkbox"/> A. Toxic <input checked="" type="checkbox"/> E. Soluble <input checked="" type="checkbox"/> I. Highly Volatile <input type="checkbox"/> B. Corrosive <input type="checkbox"/> F. Infectious <input type="checkbox"/> J. Explosive <input type="checkbox"/> C. Radioactive <input type="checkbox"/> G. Flammable <input type="checkbox"/> K. Reactive <input checked="" type="checkbox"/> D. Persistent <input type="checkbox"/> H. Ignitable <input type="checkbox"/> L. Incompatible <input type="checkbox"/> M. Not Applicable
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III. WASTE TYPE

Category	Substance Name	01 Gross Amount	02 Unit of Measure	03 Comments
SLU	Sludge			
OLW	Oily Waste			
SOL	Solvents	5184	pounds	Tetrachloroethylene sludge
PSD	Pesticides			
OCC	Other Organic Chemicals			
IOC	Inorganic Chemicals			
ACD	Acids			
BAS	Bases			
MES	Heavy Metals	280	Tons	Chrome lignosulfonate

IV. HAZARDOUS SUBSTANCES (see Appendix for most frequently cited CAS numbers)

01 Cat.	02 Substance Name	03 CAS Number	04 Storage/Disposal Method	05 Concentration	06 Measure of Concentration
	ENVIRONMENTAL	RELEASE	DATA**		
MES	Chromium	7440473	South drainage ditch	0.34	mg/l
MES	Lead	7439921	South drainage ditch	0.1	mg/l
MES	Chromium	7440473	Test well DH2	0.18	ppm
MES	Lead	7439921	Test well DH1	0.13	ppm
MES	Lead	7439921	Test well DH2	0.18	ppm
IOC	Cyanide	57125	Test wells DH1 & 2	0.02	ppm
IOC	Cyanide	57125	S. hill runoff ditch	0.09	ppm
MES	Cadmium	7440439	West well (DH-1)	.07	ppm
MES	Lead	7439921	West well (DH-1)	0.6	ppm
MES	Cadmium	7440439	Stormwater discharge	.04	ppm
	ANALYSES OF CHROME	LIGNO-	SULFONATE DEPOSITED	AT LAND-	FILL*
MES	Hexavalent chromium	7440473	Waste analyses	72-145	ppm
	****LEACHATE	ANALYSES	****		
MES	Hexavalent chromium	7440473	Filtered	.06	ppm
MES	Hexavalent chromium	7440473	Unfiltered	.45	ppm
SLU	Tetrachloroethylene	127184	Drycleaning waste	Unk	N/A

V. FEEDSTOCKS (see Appendix for CAS numbers)

Category	01 Feedstock Name	02 CAS Number	Category	01 Feedstock Name	02 CAS Number
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (cite specific references, e.g., state files, etc.)

WDOE Lab Data Summary, 3/14/80, Sample #601, South Ditch; Benlab, Reports of Analyses of Hoquiam Water Samples (Test wells, Leachate & Runoff), on 3/23/84, 6/29/84 & 9/25/85; ITT Rayonier Inc, Letter Summarizing Analytical Results from J. Schaff to G. Houck, WDOE, 2/15/83;

**POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT**
Part 3 - Description of Hazardous Conditions & Incidents

I. IDENTIFICATION

01 State WA	02 Site Number D980834030
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II. HAZARDOUS CONDITIONS AND INCIDENTS

01 (<input checked="" type="checkbox"/>) A. Groundwater Contamination	02 (<input checked="" type="checkbox"/>) Observed (Date: 1984)	() Potential () Alleged
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03 Population Potentially Affected: <100

04 Narrative Description

Test well analytical data indicated lead & chromium. Landfill is on alluvial sedimentary deposits composed of partially consolidated sands, gravels, & clays. Test well log DH 1 shows water table at 25 ft. below surface in sands & fill (garbage). Springs are reported on-site.

01 (☒) B. Surface Water Contamination

02 (☒) Observed (Date: 1984) () Potential () Alleged

03 Population Potentially Affected: Unk

04 Narrative Description

Leachate discharges to storm drains which drain to Hoquiam River 300 ft W. (20% slope). A portion of the leachate is collected & piped to Hoquiam Sewage Treatment Plant, but numerous WDOE inspections since 1978 confirm system does not work properly, or is bypassed.

01 (☒) C. Contamination of Air

02 () Observed (Date:) () Potential () Alleged

03 Population Potentially Affected: 0

04 Narrative Description

None reported or suspected. There are 2250 residents/transients within one mile of the site.

01 (☒) D. Fire/Explosive Conditions

02 () Observed (Date:) () Potential () Alleged

03 Population Potentially Affected: 0

04 Narrative Description

No known certified fire/explosive conditions. Landfill was a burning dump prior to 1976 and WDOE site inspection on 2/14/78 reported burning on-site without adequate water supplies.

01 (☒) E. Direct Contact

02 () Observed (Date:) (☒) Potential () Alleged

03 Population Potentially Affected: 100

04 Narrative Description

None reported. Site is not fenced. Access to site is believed to be restricted in part by gatehouse and employees. Fire on 2/14/78 allegedly set on a weekend indicating unrestricted access on other than normal working hours.

01 (☒) F. Contamination of Soil

02 () Observed (Date:) (☒) Potential () Alleged

03 Area Potentially Affected (acres): 42

04 Narrative Description

Past disposal of chrome lignosulfonate & dry cleaning sludges pose high potential for soils contamination. Native soils are composed of sands, silts & clays of low to moderate permeability. Extent of fill materials is unknown; test well log (DH-1) shows fill extends below water table.

01 (☒) G. Drinking Water Contamination

02 () Observed (Date:) (☒) Potential () Alleged

03 Population Potentially Affected: <100

04 Narrative Description

None reported or suspected. Public supply intake is 1.5-2 mi. upstream. Metal contamination detected in landfill monitoring well. There are no records of private well contamination. Nearest known drinking well (Hoquiam School District) is approximately 1 mile SW of site.

01 (☒) H. Worker Exposure/Injury

02 () Observed (Date:) () Potential () Alleged

03 Workers Potentially Affected: <50

04 Narrative Description

None reported or suspected. Safety procedures employed on-site are unknown. WDOE site inspection reported leachate back-up into employee bathroom/shower area.

01 (☒) I. Population Exposure/Injury

02 () Observed (Date:) (☒) Potential () Alleged

03 Population Potentially Affected: <250

04 Narrative Description

None reported. Risks to population appear minimal since public supplies are upstream of site. Major exposure route is via the Hoquiam River. Risks to the river may be minimal due to dilution & tidal effects.

**POTENTIAL HAZARDOUS WASTE SITE
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Part 3 - Description of Hazardous Conditions & Incidents

I. IDENTIFICATION

01 State WA	02 Site Number D980834030
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II. HAZARDOUS CONDITIONS AND INCIDENTS (continued)

01 ☒ J. Damage to Flora 02 ☐ Observed (Date:) ☐ Potential ☐ Alleged

04 Narrative Description

None reported or suspected.

01 ☒ K. Damage to Fauna 02 ☐ Observed (Date:) ☐ Potential ☐ Alleged

04 Narrative Description (include name[s] of species)

None reported or suspected. Hoquiam River is a migration corridor for chum, coho, & Chinook salmon. Bowerman Basin (1.3 mi downstream), is utilized by endangered/threatened raptors & migrating shorebirds.

01 ☒ L. Contamination of Food Chain 02 ☐ Observed (Date:) ☐ Potential ☐ Alleged

04 Narrative Description

None reported or suspected.

01 ☒ M. Unstable Containment of Wastes 02 ☒ Observed (Date: 1984) ☐ Potential ☐ Alleged
(spills/runoff/standing liquids/leaking drums)

03 Population Potentially Affected: 04 Narrative Description

Persistent leachate discharges to storm drainage & the Hoquiam River and contamination of GW as evidenced by on-site monitoring wells. Letter from WDOE to city cited exposed fill area too large; source of leachate.

01 ☒ N. Damage to Offsite Property 02 ☐ Observed (Date:) ☐ Potential ☐ Alleged

04 Narrative Description

None reported.

01 ☒ O. Contamination of Sewers, 02 ☒ Observed (Date: 1984) ☐ Potential ☐ Alleged
Storm Drains, WWTPs

04 Narrative Description

Leachate is piped to the Hoquiam Sewage Treatment Plant. Collection of leachate unsatisfactory as evidenced by persistent leachate discharges to storm drainage ditches on-site.

01 ☒ P. Illegal/Unauthorized Dumping 02 ☐ Observed (Date:) ☐ Potential ☐ Alleged

04 Narrative Description

Disposal of an estimated 5000 lbs. of dry cleaning sludges from the Most Western Laundry. Sludges contain tetrachloroethylene.

05 Description of Any Other Known, Potential, or Alleged Hazards

None known.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 250

IV. COMMENTS

WDOE & Grays Harbor Health Dept. have required the City of Hoquiam to undertake a comprehensive geohydro. study of the landfill to characterize site, establish GW & SW monitoring, and determine impacts, if any, from leachate. Study to occur in 1986. Based on results of investigation, WDOE will assess need for remedial actions.

V. SOURCES OF INFORMATION (cite specific references: state files, reports, etc.)

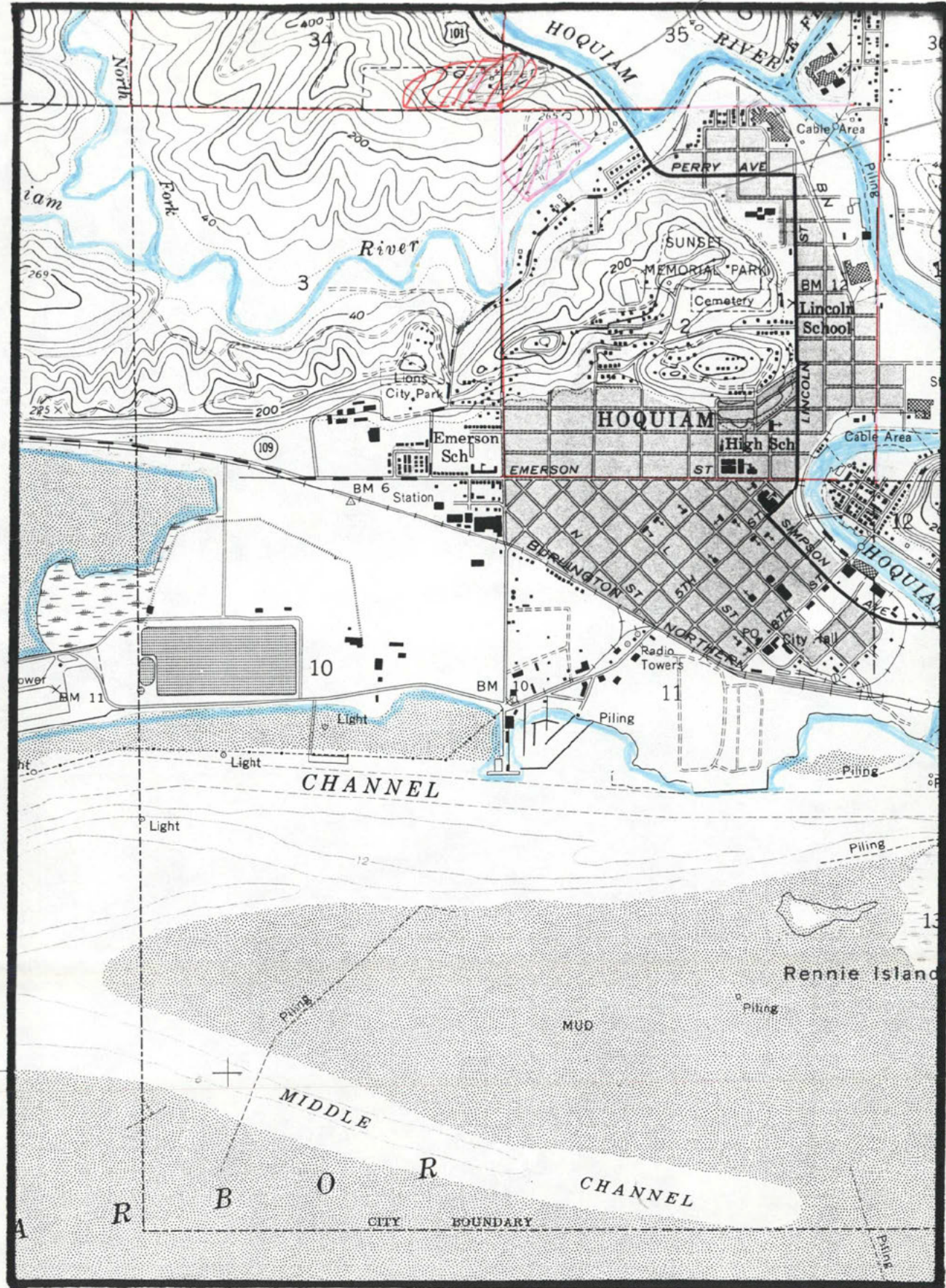
F. Monaghan, WDOE, pers. comm., 10/01/85; R. Varness, Grays Harbor Dept., pers. comm., 10/01/85; USGS Hoquiam Quad, 1983; WDOE, SWRD files; N. Twelker & Assoc., Well Log DH-1, 1984; WDF, WA. Stream Cat., 1975; WDSHS Water Supply Listing, 1985; WDOE, SWRD Well Log files.

Hoguiam Municipal Landfill
Hoguiam 7.5' quad (183)

Approx
SE 1/4 Sec. 34
& SW 1/4 Sec 35
T18N
R10W

R 10W

T 17 N
T 18 N



CONTACT REPORT

Project Number:

136xx

Contact: GENE LITLER WATER DEPT.

Date: 9/3 Time: _____

Company: CITY OF HOQUIAM

☐ Made Call

Phone: (206) 532-9330

☒ Received Call

☐ Meeting

Discussion: THE WDSHS PRINTOUT LISTING
SURFACE WATER SUPPLIES FOR THE CITY
OF HOQUIAM WERE LISTED INCORRECTLY.
THE CORRECT T&R IS AS FOLLOWS

SW 1/4 Sec. 4 T 18N R 10 West

(not R 1E AS WAS REPORTED IN ATTACHED
PRINT OUT)

Distribution:

HOQUIAM LANDFILL

Prepared by:

PATT O'FLAHERTY

Seattle Office
Environmental Technology Group
(206) 747-7899

ATTACHMENT B
RCRA Section 3012 Preliminary Assessment Program
Surface and Groundwater Hydrology

Site Name Hoguan Municipal Landfill County Grays Harbor

- Sources:
1. U.S.G.S Topo Hoguan 7.5' quad (1983)
 2. Alt and Hyndman Roadside geology of Wash (1984)
 3. Molenaar and others "Principal Aqu. and Well Yields in Wash" (1980)
 4. WDF Wash. Stream Catalog (1975) Vol 2. Coastal Region
 5. SCS - Soil Survey of Pierce Co. (1979)
 6. WDSHS Public Supplies - 1985 Computer Print out
 7. NEIL H TWELKER & ASSOC. WELL LOGS FOR DH-1 & DH-2 (1984)
 8. Well logs used:

GROUNDWATER

Name/description of aquifer

Sedimentary deposits - partially consolidated sand and gravel deposits and some clay and silt

FILL MATERIAL TO 40 ft, DENSE SAND & SANDSTONE BENEATH

Source 3/8/7

Depth from the ground surface to the highest seasonal level of the saturated zone of the aquifer

25 ft

Source 8/7

Soil type in unsaturated zone

Silty loam, well drained

Source 5

Permeability associated with soil type

Permeability is moderate

Source 5

Use(s) of aquifer of concern within a 3-mile radius of the hazardous substance. If available, indicate up-gradient or down-gradient

Domestic

Source 8/6

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply

Hoguiam School Dist. (SW_{1/4} of SE_{1/4} of Sec 3)

Source 8

Distance from hazardous substance to above well or building and, if available, indicate up-gradient or down-gradient

1 mile

Source 1/8

Identified water-supply well(s) drawing from aquifer of concern within a 3-mile radius of the hazardous substance and population served by each well

Public: No Public GW supplies - per WDSHS

Private: 18(3.8) = 68

Source 6

Land area (in acres) irrigated by supply well(s) drawing from aquifer of concern within a 3-mile radius of the hazardous substance

Information not available

Source N/A

SURFACE WATER

Name/description and distance to nearest downslope surface water if within three miles

North Fork of Hoguiam which drains into the Hoguiam River,
The Hoguiam River then drains into Grays Harbor

Source 1

Average slope (in percent) of terrain between facility and above-cited surface water

20%

Source 1

Distance to above-cited surface water

300 ft

Source 1

Use(s) of surface water within 3-miles (free-flowing water) or 1-mile (static water) of the hazardous substance

Recreation -

migration of Coho, Chum, and Chinook
1.5 - 2 miles UPSTREAM of site are
the Public Drinking Supplies for 9500 Source 4/1/6

Location of water-supply intake(s) within 3-miles (free-flowing water) or 1-mile (static water) downstream of the hazardous substance and population served by each intake

none found

Source 5

Land area (in acres) irrigated by supply well(s) within 3-miles (free-flowing water) or 1-mile (static water) downstream of the hazardous substance

Information not available

Source N/A

Distance, in stream miles, to intakes cited in previous two items

none

Source N/A

STATE OF WASHINGTON
PUBLIC WATER SUPPLY SYSTEM LISTING
ORD/2

PAGE 6
03/04/85

ID NO.	SYSTEM NAME	COUNTY	CLASS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	BACTI SAMPLING SCHEDULE														
	POPULATION														
	SOURCE NO.	SOURCE NAME	CATEGORY	TYPE	INTERIE	DEPTH	CAPACITY	TREATMENT							TWP RANG SEC
08700F	GRAND COULEE WATER DEPT, CITY OF	GRANT						Class: 1							
	Bacti: 2/month														
	Perm: 1,325														
	Source: 1 LAKE ROOSEVELT	SURF	PRI.				950	CL2.							28N 30E 120
	Source: 2 LAKE ROOSEVELT	SURF	PRI.				300	CL2.							28N 30E 1F
543501	HOUQUIAM WATER DEPARTMENT, CITY OF	GRAYS HARBOR						Class: 1							
	Bacti: 11/month														
	Perm: 9,715														
	Source: 1 DAVIS CREEK	SURF	PRI.				2,100	CL2,FILT,OTH.							18N 1E 4P
	Source: 2 WEST FORK HOQUIAM R.	SURF	SEC.				2,100	CL2,FILT,OTH.							18N 1E 40
	Source: 3 LITTLE HOQUIAM R.	SURF					1,000	CL2,OTH.							18N 1E 20E
<p><i>532-9330</i></p> <p><i>Incorrect Range Location</i></p> <p><i>4 T18N 10W</i></p> <p><i>T18N 10W</i></p> <p><i>THIS SOURCE IS ON A SEPARATE LINE & IS NO LONGER USED But may be in the future</i></p>															
NP360B	HOZOMEEN NO 1	WHATCOM						Class: 1							
	Bacti: (m) Variables:	0	0	0	1	0	1	2	1	1	1	0	0		
	Perm: 12 Transitory:	0	0	0	10	288	363	1020	876	933	186	93	0		
	Source: 1 HOWLETT CREEK	SURF	PRI.				18	CL2.							41N 13E 36L
033002	ILWACO WATER DEPARTMENT, TOWN OF	PACIFIC						Class: 1							
	Bacti: 1/month														
	Perm: 800														
	Source: 1 BLACK LAKE	SURF	PRI.				660	CL2,FILT,OTH.							10N 11W
03900K	IONE WATER DEPT	PEND OREILLE						Class: 1							
	Bacti: 1/month														
	Perm: 750														
	Source: 1 CEDAR CREEK	SURF	PRI.				800	CL2,FILT.							38N 42E 36B
03900R	KCWD #19	KING						Class: 1							
	Bacti: 3/month														
	Perm: 2,395														
	Source: 1 PLANT # 1	SURF	PRI.				200	CL2,FILT.							23N 3E 290
	Source: 2 PLANT # 2	SURF	PRI.				250	CL2,FILT.							22N 3E 8A
0000L	KELSO, CITY OF	COWLITZ						Class: 1							
	Bacti: 12/month														
	Perm: 11,024														
	Source: 1 COWLITZ RIVER	SURF	SEC.				2,180	CL2,COAG,SED,FILT,FL.							8N 2W 27A

STATE OF WASHINGTON

Permit No.

(1) OWNER: Name.....(b) (6) Address.....(b) (6) Hawaii

(2) LOCATION OF WELL: County Geays Harbor - N 1/2 SE 1/4 Sec 25 T 18 N R 10 W

Bearing and distance from section or subdivision corner

(3) **PROPOSED USE:** Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

(4) TYPE OF WORK: Owner's number of well (if more than one)

New well	<input checked="" type="checkbox"/>	Method: Dug	<input type="checkbox"/>	Bored	<input type="checkbox"/>
Deepened	<input type="checkbox"/>	Cable	<input checked="" type="checkbox"/>	Driven	<input type="checkbox"/>
Reconditioned	<input type="checkbox"/>	Rotary	<input type="checkbox"/>	Jetted	<input type="checkbox"/>

(5) **DIMENSIONS:** Diameter of well 6 inches.
 Drilled 200 ft. Depth of completed well 200 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6" Diam. from 0 ft. to 50 1/2 ft.
Threaded ☐ Liner 5" Diam. from 145 ft. to 200 ft.
Welded ☒ " Diam. from ft. to ft.

Perforations: Yes ☐ No ☒

Type of perforator used.....

SIZE of perforations in. by in.

..... perforations from ft. to ft.

..... perforations from ft. to ft.

..... perforations from ft. to ft.

Screens: Yes ☐ No ☒

Manufacturer's Name.....

Type..... Model No.....

Diam. Slot size from ft. to ft.

Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☒ **Size of gravel:**
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 18 ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name.....
Type: H.P.

(8) **WATER LEVELS:** Land-surface elevation ft.
 Static level 18' ft. below top of well Date 7-21-80
 Artesian pressure lbs. per square inch Date
 Artesian water is controlled by
 (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? Yes ☐ No ☒ If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

Yield:	gal./min. with	ft. drawdown after	hrs.
"	"	"	"
"	"	"	"

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
.....
.....

Date of test
 Bailer test 2 gal./min. with 10 ft. drawdown after hrs.
 Artesian flow g.p.m. Date
 Temperature of water Was a chemical analysis made? Yes ☐ No ☐

Work started 7-16 19 80 Completed 7-21 19 80

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Williams Well Drilling, Inc.
(Person, firm, or corporation) (Type or print)

Address 6517 Olympic Hwy., Aberdeen

[Signed] Steve Williams
(Well Driller)

License No. 0536 Date 9-22 1980

STATE OF WASHINGTON

Permit No.

(1) OWNER: Name (b) (6) Address (b) (6) Hoquiam
(2) LOCATION OF WELL: County Grays Harbor - NW 1/4 SE 1/4 Sec 5 T. 17 N. R. 10 W
Bearing and distance from section or subdivision corner

(3) **PROPOSED USE:** Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well
(if more than one).....

New well	<input checked="" type="checkbox"/>	Method: Dug	<input type="checkbox"/>	Bored	<input type="checkbox"/>
Deepened	<input type="checkbox"/>	Cable	<input checked="" type="checkbox"/>	Driven	<input type="checkbox"/>
Reconditioned	<input type="checkbox"/>	Rotary	<input type="checkbox"/>	Jettied	<input type="checkbox"/>

(5) **DIMENSIONS:** Diameter of well 6 inches.
 Drilled 67 ft. Depth of completed well 67 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6 " Diam. from 0 ft. to 67 ft.
Threaded ☐ " Diam. from " ft. to " ft.
Welded ☒ " Diam. from " ft. to " ft.

Perforations: Yes ☐ No ☒

Type of perforator used.....

SIZE of perforations in. by in.

..... perforations from ft. to ft.

..... perforations from ft. to ft.

..... perforations from ft. to ft.

Screens: Yes ☐ No ☒

Manufacturer's Name.....

Type..... Model No.....

Diam. Slot size from ft. to ft.

Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☒ **Size of gravel:**
Gravel placed from **ft. to** **ft.**

Surface seal: Yes ☒ No ☐ To what depth? 18 ft.
Material used in seal Bentonite & clay
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name.....
Type: H.P.....

(8) **WATER LEVELS:** Land-surface elevation above mean sea level.....ft.
 Static level 15.....ft. below top of well Date.....
 Artesian pressure.....lbs. per square inch Date.....
 Artesian water is controlled by..... (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? Yes ☐ No ☒ If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

11	22	33	44
11	22	33	44

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
.....
.....

Date of test
 Bailor test 20 gal./min. with 42 ft. drawdown after 1 hrs.
 Artesian flow g.p.m. Date
 Temperature of water Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Top Soil	0	2
Yellow Clay	2	16
Yellow Clay + Gravel	16	34
Brown Clay	34	41
Blue Clay	41	67
Gravel, Mixed Color	67	68

Work started Mar 24, 1978 Completed Mar 27, 1978

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Smith Drilling Co. (Person, firm, or corporation) 532-7449 (Type or print)

Address St. Rt. Bx 32 Cosmopolis

[Signed] Grady Smith
(Well Driller)

License No. 0479 Date Mar 28 1978

(1) OWNER: Name (b) (6) Address (b) (6) Hoquiam (b) (6)
(2) LOCATION OF WELL: County Grays Harbor - S 1/4 NE 1/4 Sec. 85 T 17 N, R 10 W M.
Bearing and distance from section or subdivision corner

(3) **PROPOSED USE:** Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one)

New well <input checked="" type="checkbox"/>	Method: Dug <input type="checkbox"/>	Bored <input type="checkbox"/>
Deepened <input type="checkbox"/>	Cable <input type="checkbox"/>	Driven <input type="checkbox"/>
Reconditioned <input type="checkbox"/>	Rotary <input type="checkbox"/>	Jetted <input type="checkbox"/>

(5) **DIMENSIONS:** Diameter of well 6 inches.
 Drilled..... 50 ft. Depth of completed well..... 50 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6" Diam. from +6 ft. to 50 ft.
Threaded ☐ " Diam. from _____ ft. to _____ ft.
Welded ☒ " Diam. from _____ ft. to _____ ft.

Perforations: Yes ☐ No ☒

Type of perforator used.....

SIZE of perforations in. by in.

..... perforations from ft. to ft.

..... perforations from ft. to ft.

..... perforations from ft. to ft.

Screens: Yes ☐ No ☒

Manufacturer's Name.....

Type..... Model No.....

Diam..... Slot size..... from..... ft. to..... ft.

Diam..... Slot size..... from..... ft. to..... ft.

Gravel packed: Yes ☐ No ☒ Size of gravel:
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 20 ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name. N/A
Type: _____ H.P. _____

(8) **WATER LEVELS:** Land-surface elevation above mean sea level... 40 ft.
 Static level 25 ft. below top of well Date 3/10/77
 Artesian pressure — lbs. per square inch Date _____
 Artesian water is controlled by _____
 (Cap. valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? Yes ☒ No ☐ If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

11	11	11	11
11	11	11	11

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
10:00 AM	25	10:30	35	10:50	40
11:30	50				

Date of test 3/10/77
 Baller test 30 gal./min. with 25 ft. drawdown after 1 hrs.

Artesian flow g.p.m. Date

Temperature of water Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Overburden, clay, green soft	+ 6	25
Conglomerate, green-gray hard	25	45
Gravel, gray	45	50

Work started March 2, 1977 Completed March 4, 1977

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Smith Well Drilling
(Person, firm, or corporation) (Type or print)

Address St. Rt. Box 32; Cosmopolis, Wn

[Signed] David M. Hogan
(Well Driller)

License No. 0763 Date March 5 1977

(1) OWNER: Name (b) (6) Address Grays Harbor City

(2) LOCATION OF WELL: County Grays Harbor - SW 1/4 SE 1/4 Sec. 5 T. 17 N., R. 10 W.M.
Bearing and distance from section or subdivision corner

(3) **PROPOSED USE:** Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well
(if more than one).....

New well	<input checked="" type="checkbox"/>	Method: Dug	<input type="checkbox"/>	Bored	<input type="checkbox"/>
Deepened	<input type="checkbox"/>	Cable	<input checked="" type="checkbox"/>	Driven	<input type="checkbox"/>
Reconditioned	<input type="checkbox"/>	Rotary	<input type="checkbox"/>	Jettied	<input type="checkbox"/>

(5) **DIMENSIONS:** Diameter of well 6 inches.
 Drilled 143 ft. Depth of completed well 140 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6" Diam. from 7 ft. to 140 ft.
Threaded ☐ " Diam. from _____ ft. to _____ ft.
Welded ☐ " Diam. from _____ ft. to _____ ft.

Perforations: Yes ☐ No ☒

Type of perforator used.....

SIZE of perforations in. by in.

..... perforations from ft. to ft.

..... perforations from ft. to ft.

..... perforations from ft. to ft.

Screens: Yes ☐ No ☒

Manufacturer's Name.....

Type..... Model No.....

Diam..... Slot size..... from..... ft. to..... ft.

Diam..... Slot size..... from..... ft. to..... ft.

Gravel packed: Yes ☐ No ☒ Size of gravel:
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 18 ft.
Material used in seal Bentonite & Clay
Did any strata contain unusable water? Yes ☐ No ☐
Type of water?..... Depth of strata.....
Method of sealing strata off.....

(7) PUMP: Manufacturer's Name.....
Type: H.P.

(8) **WATER LEVELS:** Land-surface elevation above mean sea level.....ft.
 Static level 115ft. below top of well Date.....
 Artesian pressure lbs. per square inch Date.....
 Artesian water is controlled by..... (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, by whom?.....			
Yield:	gal./min. with	ft. drawdown after	hrs.
"	"	"	"
"	"	"	"

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
.....
.....

Date of test
 Bailer test 20 gal./min. with 15 ft. drawdown after 1 hrs.
 Artesian flow g.p.m. Date
 Temperature of water Was a chemical analysis made? Yes ☐ No ☐

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
CLAY Yellow	0	25
CLAY Blue	25	60
CLAY + Gravel Blue	60	85
CLAY + Gravel Brown	85	110
CLAY Blue	110	135
CLAY + Gravel Brown	135	143

Work started 9-10, 1974 Completed 9-14, 1979

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Peto Smith Wheel Drilling
(Person, firm, or corporation) (Type or print)

Address. St Rt Bx 32 Cosmopolis Wash

[Signed] John A. Aael
(Well Driller)

License No. 0195 Date 9-19 1970

WELL LOG

Appli. #8013

Record by.....Driller

Source..... Driller's Record

Location: State of WASHINGTON

County.....Grays Harbor

Area.

Map.

SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec 3 T 17 N. R. 10 E

Drilling Co. Taylor Drilling Co.

Diagram of Section

Address. 2416 Cherry, Hoquiam, Washington

Method of Drilling..... Cable..... Date March 4, 1966
 Hoquiam School Dist #22

Owner Hoquiam School Dist. #28

Address 312 Simpson Aven., Hoquiam, Washington

Land surface, datum.....ft. above

SWL: 8' Date: , 19 Dims: 10" x 190'

(Transcribe driller's terminology literally but paraphrase as necessary, in parentheses. If material water-bearing, so state and record static level if reported. Give depths in feet below land-surface datum unless otherwise indicated. Correlate with stratigraphic column, if feasible. Following log of materials, list all casings, perforations, screens, etc.)

Turn up

Sheet.....of.....sheets

SITE: Hoggin Sandfill
TOTAL WELLS: 18
(WITHIN 3 MILES)

The image shows two 6x6 grids, labeled R10W and R9W. Each grid contains numbers 1 through 36, arranged in a 6x6 pattern. The R10W grid has a red dot at cell 34 and a red circle around it. The R9W grid has a red dot at cell 34 and a red circle around it. Both grids have a red dot at cell 34 and a red circle around it.

$T = 17$ $R = 10W$ ~~|||||~~
 $T = 18$ $R = 10W$
 $T = 17$ $R = 9W = 0$
 $T = 18$ $R = 9W = 0$

SECTIONS

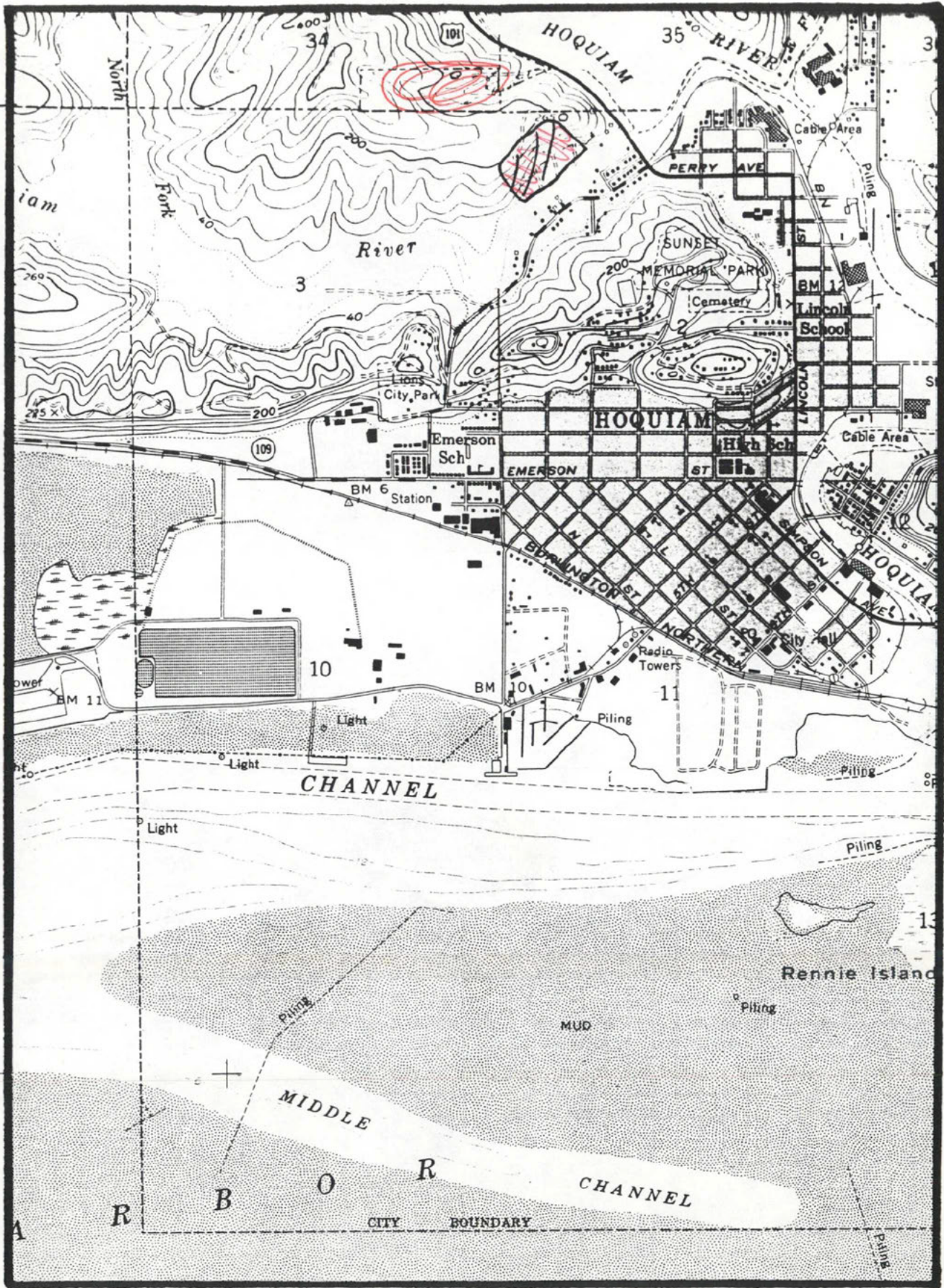
NOTES: Only 1 well within one mile - throw in a few of the next closest wells

Hogfisk (7.5)

Hoquiam Municipal Land(61)
Hoquiam 7.5' quad (133)

R 10W

T 17 N
T 18 N



ATTACHMENT B

RCRA Section 3012 Preliminary Assessment Program Land Use and Demography

Prepared for JRB Associates by Shapiro and Associates

Site Name HOQUIAM MUNICIPAL LANDFILL County HOQUIAM GRAMS HARBOR GO

- Sources
1. USGS TOPO MAP - HOQUIAM 1983
 2. BOTTOFF, USFWS, 1984
 3. USFWS, 1980
 4. 1980 CENSUS DATA
 5. GRAMS HARBOR COUNTY PUBLIC WORKS,
 - 6.
 - 7.

Distance/direction to a 5-acre (minimum) coastal wetland, if 2 miles or less

1.3 MILE SW TO ESTUARINE - EMERGENT MARSH & MUD FLATS, OPEN WATER

Source 1

Distance/direction to a 5-acre (minimum) freshwater wetland, if 1 mile or less

0.4 MILE SW TO PASTURE - SWAMP & MARSH ALONG HOQUIAM RIVER

Source 1

Distance/direction to a critical habitat of an endangered species, if 1 mile or less

NONE

BOWERMAN BASIN (LOCATED 1.3 MILE AWAY) IS A FORAGING AREA FOR PEREGRINE FALCONS AND BALD EAGLES (ENDANGERED & THREATENED SPECIES) Source 2

Distance/direction to a National Wildlife Refuge, if 1 mile or less

NONE

BOWERMAN BASIN IS CRITICAL HABITAT AS A STOPPING AND FEEDING AREA FOR MIGRATING SHOREBIRDS (MILLIONS OF BIRDS) Source 3

Resident and/or transient population within 1 mile of site

2,250

Source 4

Public or private facilities of particular concern (e.g., parks, schools) if within 1 mile or less PARKS - LIONS CITY PARK ; SCHOOLS - ONE HIGH SCHOOL, ONE JR. HIGH, TWO ELEM.; OTHER - FOUR CHURCHES, RESERVOIR

Source 1

Municipal sanitary sewer system and or storm sewers serving the facility?

YES, TO CITY OF HOQUIAM SYSTEM

Source 6

Ultimate discharge point(s) of above sewer systems

GRAYS HARBOR

Source 6

100-year flood potential at site

NONE

Source 6

RELEASE OF CONTAMINANTS VIA AIR ROUTE
(Complete only if directed by JRB)

Population within various radii of site:

1/4 mile _____

1 mile _____

1/2 mile _____

4 miles _____

Source _____

Distance/direction to a commercial/industrial area, if 1 mile or less

Source _____

Distance/direction to a national or state park, forest or wildlife refuge if 2 miles or less

Source _____

Distance/direction to a residential area if 2 miles or less

Source _____

Distance/direction to agricultural land in production within past five years, if 1 mile or less

Source _____

Distance/direction to prime agricultural land in production within past five years, if 2 miles or less

Source _____

Distance/direction of a historic or landmark site (National Register of Historic Places and National Natural Landmarks) if within 1 mile or less

Source _____